



THE WEIZMANN SCIENCE PRESS OF ISRAEL

National Council for Research and Development

# **ISRAEL** **Journal of** **MATHEMATICS**

Volume 56  
1986



מוסד ויצמן לפרסומים במדעי הטבע ובטכנולוגיה, ירושלים  
**THE WEIZMANN SCIENCE PRESS OF ISRAEL**

*Publishers of the Following Journals*

ISRAEL JOURNAL OF BOTANY; ISRAEL JOURNAL OF CHEMISTRY;  
 ISRAEL JOURNAL OF EARTH-SCIENCES; ISRAEL JOURNAL OF MATHEMATICS;  
 ISRAEL JOURNAL OF TECHNOLOGY; ISRAEL JOURNAL OF ZOOLOGY;

JOURNAL D'ANALYSE MATHÉMATIQUE  
 (SCIENCE FOR YOUTH) **לדעת מדע לנוער**  
 (SCIENCE) **בדע עתון מדעי לכל**

*Supporting Institutions*

THE NATIONAL COUNCIL FOR RESEARCH AND DEVELOPMENT;  
 BAR-ILAN UNIVERSITY; BEN GURION UNIVERSITY OF THE NEGEV;  
 TECHNION — ISRAEL INSTITUTE OF TECHNOLOGY; TEL AVIV UNIVERSITY;  
 THE HEBREW UNIVERSITY OF JERUSALEM; THE WEIZMANN INSTITUTE OF SCIENCE

**GENERAL EDITORIAL BOARD**

D. ABIR  
 A. DVORETZKY  
 C. ELATA  
 H. EYAL-GILADI  
 M. JAMMER  
 J. JORTNER  
 E. LENZ  
 L. REINHOLD

**ISRAEL JOURNAL  
 OF MATHEMATICS**

Formerly: Bulletin of The Research Council  
 of Israel, Section F

**Editorial Board**

H. M. FARKAS  
*The Hebrew University of Jerusalem*  
*Executive Editor*  
 S. ABARBANEL  
*Tel Aviv University*  
 S. A. AMITSUR  
*The Hebrew University of Jerusalem*  
 H. FURSTENBERG  
*The Hebrew University of Jerusalem*  
 B. GRÜNBAUM  
*University of Washington*  
 A. LEVY  
*The Hebrew University of Jerusalem*  
 J. LINDENSTRAUSS  
*The Hebrew University of Jerusalem*  
 M. MAGIDOR  
*The Hebrew University of Jerusalem*  
E. NETANYAHU  
*Technion — Israel Institute of Technology, Haifa*  
 A. PAZY  
*The Hebrew University of Jerusalem*  
 B. WEISS  
*The Hebrew University of Jerusalem*  
A. ZABRODSKY  
*The Hebrew University of Jerusalem*

**Executive Editor**

P. GREENBERG

Four volumes of the Israel Journal of Mathematics are to be published in 1986,  
 Vols. 53, 54, 55 and 56

Subscriptions should be addressed to the Weizmann Science Press of Israel, P.O.B.  
 801, Jerusalem 91007 Israel. Subscription fees per volume, U.S.\$50.00 + \$2.00 postage  
 & handling (\$200.00 + \$8.00 postage & handling for the 4 vols.). Individual members of  
 mathematical societies may subscribe at a 50% discount.



# ISRAEL JOURNAL OF MATHEMATICS

## TABLE OF CONTENTS, VOLUME 56, 1986

BELLENOT, S. F. Banach spaces with trivial isometries	89
BEREND, D. AND V. BERGELSON Characterization of joint ergodicity for non-commuting transformations	123
BERGELSON, V. <i>See</i> D. Berend	
BIRMAN, J. S. AND B. WAJNRYB Markov classes in certain finite quotients of Artin's braid group	160
BOURGAIN, J. The metrical interpretation of superreflexivity in Banach spaces	222
DEKSTER, B. V. On reduced convex bodies	247
DROSTE, M. Complete embeddings of linear orderings and embed- dings of lattice-ordered groups	315
EL-MOSALAMY, M. S. Free subgroups of small cancellation groups	345
GITIK, M. Changing cofinalities and the nonstationary ideal	280
GOOTMAN, E. C. AND A. J. LAZAR Crossed products of type I AF algebras by abelian groups	267
GUERRE, S. Sur les suites presque echangeables dans $L^q$ , $1 \leq q < 2$	361
HERNÁNDEZ, F. L. AND V. PEIRATS Orlicz function spaces without complemented copies of $l^p$	355
IRANZO, M. J. AND F. PÉREZ MONASOR fitting classes $\mathcal{F}$ such that all finite groups have $\mathcal{F}$ -injectors	97
JØRGENSEN, P. E. T. Unitary dilations and the $C^*$ algebra $\mathcal{O}_2$	129
KING, J. For mixing transformations $\text{rank}(T^k) = k \cdot \text{rank}(T)$	102
KOMJÁTH, P. Connectivity and chromatic number of infinite graphs	257
ŁANSKI, C. Minimal differential identities in prime rings	231
LAZAR, A. J. <i>See</i> E. C. Gootman	
LÖVBLOM, G.-M. Isometries and almost isometries between spaces of continuous functions	143
MACDONALD, I. D. More on $p$ -groups of Frobenius type	335
PEIRATS, V. <i>See</i> F. L. Hernández	
PÉREZ MONASOR, F. <i>See</i> M. J. Iranzo	

RABINOWITZ, P. On the convergence of interpolatory product integration rules based on Gauss, Radau and Lobatto points	66
ROBINSON, E. A., JR. Transformations with highly nonhomogeneous spectrum of finite multiplicity	75
SHELAH, S. AND L. J. STANLEY S-forcing IIa: Adding diamonds and more applications: Coding sets, Arhangel'skii's problem and $\mathcal{L}[Q_1^{<\omega}, Q_2^1]$	1
STANLEY, L. J. See S. Shelah	
VERA LÓPEZ, A. Arithmetical conditions on the conjugacy vector of a finite group	179
VERA LÓPEZ, A. AND J. VERA LÓPEZ Classification of finite groups according to the number of conjugacy classes II	188
VERA LÓPEZ, J. See A. Vera López	
WAJNRYB, B. See J. S. Birman	
YOROZU, S. $A_p$ -operator on complete foliated Riemannian manifolds	349